Dr. Xiu Liu, PhD, Chemistry
Department of Justice
Drug Enforcement Administration
Office of Forensic Sciences

Senior Forensic Chemist
South Central Laboratory
Dallas, Texas

AREA OF EXPERTISE

Forensic Discipline

Drug Chemistry

Expert Testimony

- Federal Courts in Texas, Louisiana, Arizona, Arkansas, New Mexico
- State Courts in Texas, Louisiana
- Testified more than 25 times.

PROFESSIONAL EXPERIENCE

DRUG ENFORCEMENT ADMINISTRATION
Senior Forensic Chemist
South Central Laboratory (Dallas, Texas), 2006-present

- Analyze evidence for the absence or presence of controlled substances utilizing a combination of wet chemistry and instrumental techniques.
- Provide expert testimony in federal and state courts based on conclusions obtained from my analysis.
- Assist local law enforcement officers on trace evidence collections and clandestine laboratory investigations.
- Troubleshoot and maintain scientific equipment.

Training

- On the job training, South Central Laboratory (Dallas, Texas), 06/2006-12/2006
- Basic Forensic Sciences School, Clandestine Laboratory Certified, Quantico, VA, 06/2007

Texas Department of Agriculture
Chemist
Pesticide Laboratory Laboratory 07/99-05/01

- Analyzed pesticides.
- Maintained instruments.
- Sample extraction for analysis

EDUCATION AND CERTIFICATIONS

- PhD, Chemistry, Texas A&M University, College Station, TX, 1993
- B.S., Radiochemistry, Fudan University, Shanghai, PR China, 1982

Certification(s)

- Clandestine Laboratory Certified

PUBLICATIONS

- Liu, X.; Qiu, A.; Sawyer, D. T. "The Bis(bipyridine)copper(II)-Induced Activation of Dioxygen for the Catalytic Dehydrogenation of Primary Alcohols", J. Am. Chem. Soc. 1993, 115, 3239.
- Sobkowiak, A.; Qiu, A.; Liu, X.; Liobet, A.; Sawyer, D. T. "Copper(I)/(t-BuOOH)-Induced Activation of Dioxygen for the Ketonization of Methylenic Carbons", J. Am. Chem. Soc. 1993, 115, 609.
- Sawyer, D. T.; Liu, X.; Redman, C.; Chong, B. "Iron(II)/Reductant (DH2)-Induced Activation of Dioxygen for the Hydroxylation and Ketonization of Hydrocarbons; Mimics for the Cytochrome P-450 Hydroxylase/Reductase System", Bioorg. Med. Chem. 1994, 2(12), 1385.
- Liu, X.; Sawyer, D. T.; Bedell, S. A.; Worley, C. M., "Ligand Degradation in the Iron/Dioxygen-Induced Dehydrogenation of H2S", Proceedings of the 1995 Gas Research Institute's Seventh Sulfur Recovery Conference, Radian Corp., Austin, TX, 1995/1996, pp 551-559.
- Sawyer, D. T.; Liu, X.; Chong, B. "Metal (Fe, Cu)/ Reductase (DH2)-Induced Activation of Dioxygen for (a) the Hydroxylation and Ketonization of Hydrocarbons and (b) the Initiation of the Autoxidation of Double Allylic Carbon Centers: More Potent and Selective Cytotoxic Agents than Superoxide", in Proceedings of the VIth International Conference on Superoxide and Superoxide Dismutase, Asada, K.; Yoshikawa, T., eds., Elesevier, Amsterdam, 1994, pp 149-152.

U.S. Department of Justice
Drug Enforcement Administration

South Central Laboratory
Dallas, TX

Chemical Analysis Report

ICE - Brownsville Office
1800 Paredes Line Road
Brownsville, TX 78521

Case Number: 2019230100038701
LIMS Number: 2019-SFL6-05255

Observations, Results and Conclusions:

Exhibit	Substance(s) Identified	Net Weight	Substance Purity	Amount Pure Substance
1	Cocaine Hydrochloride	10044.4 g ± 0.6 g	----	----

Remarks:

The net weight was determined by direct weighing of all unit(s); the net weight uncertainty value represents an expanded uncertainty estimate at the 95% level of confidence.

Exhibit Details:

Date Accepted by Laboratory: 07/23/2019 **Gross Weight:** 11.74 kg **Date Received by Examiner:** 10/15/2019

Exhibit	No. Units	Pkg. (Inner)	Form	Reserve Wt.
1	10	Multilayered Packaging	Powder	10039.1 g

Remarks:

Original packaging separated and returned to ICE for latent print examination.

1.0 gram removed from each of 3 containers for special program.

Exhibit Analysis:

Sampling:

Cocaine confirmed in 9 units tested of 10 units received indicating, to at least a 95% level of confidence, that at least 90% of the units in the population contain the substance(s). A composite was formed from 10 units for further testing. Salt form determined from testing the composite.

Exhibit	Summary of Test(s)
1	Gas Chromatography/Mass Spectrometry, Infrared Spectroscopy, Scott's Color Test

The terminology used in the preparation of this report is consistent with the current Department of Justice Uniform Language for Testimony and Reports for General Forensic Chemistry and Seized Drug Examinations.

Analyzed By: /S/ Xiu Liu, Senior Forensic Chemist **Date:** 10/16/2019
Approved By: /S/ Charity M. Foreman, Senior Forensic Chemist **Date:** 10/16/2019